

6/17/06  
Appl. No. 10/088,952

Amdt. dated February 23, 2006  
Reply to Office Action of August 23, 2005

PATENT

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings of claims in the application:

**Listing of Claims:**

1. (currently amended) A method of targeting a compound to a cell over-expressing a plasminogen activator[[], ] or a plasminogen activator receptor, the method comprising the steps of :

(i) administering to the cell a mutant protective antigen protein comprising a plasminogen activator-recognized cleavage site in place of the native protective antigen furin-recognized cleavage site, wherein the mutant protective antigen is cleaved by a plasminogen activator, wherein the plasminogen activator is a u-PA; and

(ii) administering to the cell a compound comprising a lethal factor polypeptide comprising a protective antigen binding site; wherein the lethal factor polypeptide binds to cleaved protective antigen and is translocated into the cell, thereby delivering the compound to the cell.

2-3. (canceled)

4. (original) The method of claim 1, wherein the cell overexpresses a plasminogen activator receptor.

5-6. (canceled)

7. (previously presented) The method of claim 1, wherein the plasminogen activator recognized cleavage site is PGSGRSA (SEQ ID NO: 5).

8. (original) The method of claim 1, wherein the cell is a cancer cell.

9. (original) The method of claim 8, wherein the cancer is selected from the group consisting of lung cancer, breast cancer, bladder cancer, thyroid cancer, liver cancer, lung

cancer, pleural cancer, pancreatic cancer, ovarian cancer, cervical cancer, colon cancer, fibrosarcoma, neuroblastoma, glioma, melanoma, monocytic leukemia, and myelogenous leukemia.

10. (canceled)

11. (original) The method of claim 1, wherein the lethal factor polypeptide is native lethal factor.

12. (original) The method of claim 1, wherein the compound is native lethal factor.

13. (original) The method of claim 1, wherein the lethal factor polypeptide is linked to a heterologous compound.

14. (original) The method of claim 13, wherein the compound is shiga toxin, A chain of diphtheria toxin, or Pseudomonas exotoxin A.

15-17. (canceled)

18. (original) The method of claim 13, wherein the heterologous compound is recombinantly linked to lethal factor.

19. (original) The method of claim 1, wherein the compound is a diagnostic or a therapeutic agent.

20. (original) The method of claim 1, wherein the cell is a human cell.

21. (original) The method of claim 1, wherein the mutant protective antigen protein is a fusion protein comprising a heterologous receptor binding domain.

22. (original) The method of claim 21, wherein the heterologous receptor binding domain is selected from the group consisting of a single chain antibody and a growth factor.

23-24. (canceled) An isolated mutant protective antigen protein comprising a matrix metalloproteinase or a plasminogen activator-recognized cleavage site in place of the native protective antigen furin-recognized cleavage site, wherein the mutant protective antigen is cleaved by a matrix metalloproteinase or a plasminogen activator.

25. (previously presented) The method of claim 1, wherein the lethal factor polypeptide comprises amino acids 1-254 of native lethal factor.

26. (previously presented) The method of claim 25, wherein the lethal factor polypeptide is linked to a heterologous compound.

27. (previously presented) The method of claim 26, wherein the heterologous compound is the ADP-ribosylation domain of *Pseudomonas* exotoxin A.

28. (previously presented) The method of claim 27, wherein the lethal factor polypeptide is recombinantly linked to the ADP-ribosylation domain of *Pseudomonas* exotoxin A.

29. (previously presented) The method of claim 27, wherein the lethal factor polypeptide is covalently linked to the ADP-ribosylation domain of *Pseudomonas* exotoxin A by a chemical bond.

30. (new) The method of claim 13, wherein the compound is covalently linked to lethal factor via a chemical bond.